

**SAN JOAQUIN VALLEY
AIR POLLUTION CONTROL DISTRICT
CHRYSLER CAPITOL FUNDING CORPORATION - MENDOTA BIOMASS**

**FINAL ENGINEERING EVALUATION
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TITLE V APPLICATION REVIEW

Project #: 960859
Deemed Complete: 1/15/97

Engineer: Juscelino Siongco
Date: December 7, 2001

Facility Number: C-825
Facility Name: Chrysler Capitol Funding Corporation – Mendota Biomass
Mailing Address: P. O. Box 99
Mendota, CA 93640

Contact Name: Tom Hadden
Phone: (916) 773-1154

Responsible Official: Douglas Tomison
Title: Plant Manager

I. PROPOSAL

Chrysler Capitol Funding Corporation is proposing that an initial Title V Permit be issued for its existing biomass power generation facility in Fresno County, CA. The purpose of this evaluation is to identify all applicable requirements, determine if the facility will comply with those applicable requirements, and to provide the legal and factual basis for proposed permit conditions.

II. FACILITY LOCATION

The Chrysler Capitol Funding Corporation power generation facility operates under the name Mendota Biomass Power, Ltd., and is located at 400 Guillen Parkway in Mendota, California.

III. EQUIPMENT LISTING

A detailed facility printout listing all permitted equipment at the facility is included as Attachment A.

A summary of exempt equipment categories, which describes the insignificant activities or equipment at the facility not requiring a permit, is shown in Attachment B. This equipment is not exempt from facility wide requirements.

IV. GENERAL PERMIT TEMPLATE USAGE

The applicant has chosen not to use any model general permit templates.

V. SCOPE OF EPA AND PUBLIC REVIEW

The applicant has not requested to utilize any model general permit templates. Therefore, the proposed permit in its entirety is subject to EPA and public review.

VI. APPLICABLE REQUIREMENTS

The applicant has not proposed to utilize any model general permit template. All Applicable requirements are explicitly addressed in the permit outside of the general permit templates.

VII. APPLICABLE REQUIREMENTS NOT ADDRESSED BY GENERAL PERMIT TEMPLATES

District Rule 1080, Stack Monitoring (as amended December 17,1992) - (Non SIP replacement for Fresno County Rule 108)

District Rule 1081, Source Sampling (as amended December 16,1993) - (Non SIP replacement for Fresno County Rule 108.1)

District Rule 1100, Equipment Breakdown (as amended December 17,1992)

District Rule 1160, Emission Statements (as adopted November 18, 1992)

District Rule 2010, Permits Required (as amended December 17, 1992)

District Rule 2020, Exemptions (as amended September 17, 1998)

District Rule 2031, Transfer of Permits (as amended December 17, 1992)

District Rule 2040, Applications (as amended December 17, 1992)

District Rule 2070, Standards for Granting Applications (as amended December 17, 1992)

District Rule 2080, Conditional Approval (as amended December 17, 1992)

District New and Modified Stationary Source Review Rule

District Rule 2520, Federally Mandated Operating Permits, Sections 5.2, 9.4.2, 9.5.1, 9.5.2, 9.6.1, 9.6.2, 9.8, 9.9.1, 9.9.2, 9.9.3, 9.9.4, 9.9.5, 9.10, 9.13.1, 9.14.1, 9.14.2, 9.17, and 10.0 (adopted June 15, 1995)

District Rule 4101, Visible Emissions (as amended December 17, 1992) - (Non SIP replacement for Fresno County Rule 401)

District Rule 4201, Particulate Matter Concentration (as amended December 17, 1992) - (Non SIP replacement for Fresno County Rule 404)

District Rule 4202, Particulate Matter - Emission Rate (as amended December 17, 1992) - (Non SIP replacement for Fresno County Rule 405)

District Rule 4301, Fuel Burning Equipment (as amended December 17, 1992) - (Non SIP replacement for Fresno County Rule 408)

District Rule 4352, Solid Fuel Fired Boilers, Steam Generators and Process Heaters (as amended October 19, 1995)

District Rule 4601, Architectural Coatings (as amended September 17, 1997)

District Rule 4621, Gasoline Transfer Into Stationary Storage Containers, Delivery Vessels, and Bulk Plants (as amended June 18, 1998)

District Rule 4622, Transfer of Gasoline Into Vehicle Fuel Tanks (as amended June 18, 1998)

District Rule 4623, Storage of Organic Liquids, section 5.4 (as amended December 17, 1992)

District Rule 4801, Sulfur Compounds (as amended December 17, 1992) - (Non SIP replacement for Fresno County Rule 406)

District Rule 8020, 8030, and 8060, Fugitive Dust (PM₁₀) Emissions (as amended April 25, 1996)

40 CFR Part 61, Subpart M, National Emission Standard for Asbestos

40 CFR Part 68, Chemical Accident Prevention Provisions

40 CFR Part 82, Subpart F, Stratospheric Ozone

40 CFR Part 60, Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

VIII. REQUIREMENTS NOT FEDERALLY ENFORCEABLE

For each Title V source, the District issues a single permit that contains the Federally Enforceable requirements, as well as the District-only requirements. The District-only requirements are not a part of the Title V Operating Permits. The terms and conditions that are part of the facility's Title V permit are designated as "Federally Enforceable through Title V Permit".

This facility is subject to the following rule that is not currently federally enforceable:

District Rule 4102, Nuisance (as amended December 17, 1992)

For this facility, condition 38 of the requirements for permit unit C-825-0-1 are not Federally Enforceable through Title V.

IX. COMPLIANCE

A. Requirements Addressed by Model General Permit Templates

The applicant has chosen to not use any general permit templates, therefore no requirements are addressed by model general permit templates.

B. Requirements Not Addressed by Model General Permit Templates

1. District New and Modified Stationary Source Review Rule (NSR)

a. Emergency Standby IC Engine/Generator (C-825-1-1)

Permit unit C-825-1-0 was subject to the District NSR Rule upon application for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Conditions 1 through 7 of the PTO have been included as conditions 8 through 14 of the requirements for permit unit -1-1.
- Condition 8 of the PTO has been included as condition 15 of the requirements for permit unit -1-1. This condition has modified by deleting the retention time of required records because compliance has been adequately addressed by condition 7.

- Condition 9 of the PTO has been included as condition 2 of the requirements for permit unit -1-1.
- Condition 10 of the PTO is not included in the requirements for permit unit -1-1. This condition of compliance has been adequately addressed in condition 22 of the Facility Wide requirements, (-0-1).

b. Biomass Receiving and Unloading (C-825-3-1)

Permit unit C-825-3-2 was subject to the District NSR Rule upon application for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO is not included in the requirements for permit unit -3-1. This condition of compliance has been adequately addressed in condition 22 of the Facility Wide requirements.
- Conditions 2 through 4 of the PTO have been included as conditions 1 through 3 of the requirements for permit unit -3-1.
- Condition 5 of the PTO has been included as condition 4 of the requirements for permit unit -3-1. This condition has modified by changing the retention time of required records from 2 years to 5 years to assure compliance with Section 9.5.2 of District Rule 2520
- Condition 6 of the PTO has been included as condition 5 of the requirements for permit unit -3-1.

c. Biomass Processing and Storage (C-825-4-2)

Permit unit C-825-4-4 was subject to the District NSR Rule upon application for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO has been included as condition 1 of the requirements for permit unit -4-2.
- Condition 2 of the PTO has been included as condition 37 of the facility wide requirements, C-825-0-1
- Condition 3 of the PTO has been included as condition 22 of the facility wide requirements, C-825-0-1.
- Conditions 4 through 9 of the PTO have been included as conditions 3 through 8 of the requirements for permit unit -4-2.

- Condition 10 of the PTO has been included as condition 9 of the requirements for permit unit -4-2. This condition has modified by changing the retention time of required data from 2 years to 5 years to assure compliance with Section 9.5.2 of District Rule 2520.

d. Biomass (Wood) Fueled Boiler (C-825-5-2)

Permit unit C-825-5-6 was subject to the District NSR Rule upon application for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO has been included as condition 22 of the facility wide requirements, C-825-0-1.
- Conditions 2 through 21 have been included as conditions 1 through 20 of the requirements for permit unit -5-2.
- Condition 22 of the PTO has been subsumed by condition 21 of the requirements for permit unit -5-2.
- Conditions 23 through 28 of the PTO have been included as conditions 22 through 27 of the requirements for permit unit -5-2.
- Condition 29 of the PTO has been subsumed by conditions 29 and 20 of the requirements for permit unit -5-2 for compliance with Rule 2520 monitoring, recordkeeping and reporting requirements.
- Conditions 30 of the PTO has been included as condition 31 of the requirements for permit unit -5-2.

e. Emergency Standby IC Engine/Firewater Pump (C-825-8-1)

Permit unit C-825-8-0 is a 245 HP IC engine powering an emergency firewater pump. It was subject to the District NSR Rule upon application for Authority to Construct (ATC) due to loss of exemption and inclusion of emergency standby conditions. In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Conditions 1 through 4 of the PTO have been included as conditions 8 through 11 of the requirements for permit unit -8-1.
- Condition 5 of the PTO was not included because it was subsumed by condition 3 of the requirements for permit unit -8-1.
- Conditions 6 through 8 of the PTO have been included as conditions 12 through 14 of the requirements for permit unit -8-1.

- Condition 9 of the PTO has been included as condition 15 of the requirements for permit unit -8-1. This condition has modified by deleting the retention time of required records because compliance has been adequately addressed by condition 7.
- Condition 10 of the PTO has been subsumed by condition 2 of Template IC-1-0 and included as condition 2 of the requirements for permit unit -8-1.
- Condition 11 of the PTO is not included in the requirements for permit unit -8-1. This condition of compliance has been adequately addressed in condition 22 of the Facility Wide requirements, (-0-1).

f. Gasoline Storage Tank (C-825-9-1)

Permit unit C-825-9-0 was subject to the District NSR Rule upon application for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Conditions 1 through 3 of the PTO has been included as conditions 16 through 18 of the requirements for permit unit -9-1.
- Condition 4 of the PTO has been subsumed by condition 3 of the requirements for permit unit -9-1.

2. District Rule 1080 – Stack Monitoring

District Rule 1080 has been submitted to the EPA to replace the requirements of Fresno County SIP-approved Rule 108. Appendix D lists all of the applicable requirements of District Rule 1080 and shows which requirements are included in the corresponding county rules, including Fresno County. This table shows that District Rule 1080 is more stringent than each of these county rules.

a. 30 MW Power Production Biomass Fueled Boiler (C-825-5-2)

Sections 4.0 through 10 set forth requirements for continuous monitoring equipment, performance standards, data reduction and recordkeeping, and reporting. Compliance with District Rule 1080 is assured by conditions 17 through 22 of the requirements for permit units -5-2.

3. District Rule 1081 – Source Sampling

Section 3.0 presents the requirements for sampling facilities including sampling ports, platforms, and access to sampling platforms.

Section 5.0 requires that test methods used be in accord with 40 CFR Part 60 Appendix A. Source tests at the facility will continue to meet federal and District requirements.

Section 6.0 requires that for the purpose of determining compliance with an applicable standard or numerical limitation, the numerical mean of three test runs shall be used, except when two of the three test runs are above the applicable limit. Compliance test results have been based on three sampling runs. Compliance with this rule will continue during the permit term and results/methods will be shown in submittals to the District.

Section 7.0 requires that the District be notified 30 days prior to source testing and that a compliance plan be submitted 15 days in advance of testing. District personnel shall witness testing and source test reports must be submitted within 60 days of completion of field-testing.

District Rule 1081 has been submitted to the EPA to replace Fresno County APCD Rule 110. The requirements of these rules are compared in Table 1, showing that the District rule is at least as stringent as the County rule.

Table 1 - Comparison of District Rule 1081 and Fresno County Rule 110

Requirements	District Rule	FCAPCD Rule
Upon request of the APCO, the source shall provide information and records to enable the APCO to determine when a representative sample can be taken.	X	X
The facility shall collect, have collected or allow the APCO to collect a source sample.	X	X
The source shall have District personnel present at a source test.	X	
The applicable test method, if not specified in the rule, shall be in accordance with 40 CFR 60, Appendix A.	X	
Test procedures: 1) arithmetic mean of three runs 2) a scheduled source test may not be discontinued solely due to the failure to meet the applicable standard(s), an 3) arithmetic mean of two runs is acceptable if circumstances beyond owner or operator control occurs.	X	

Permit conditions have been added to ensure compliance with the emission limits of this rule. See condition 18 of permit unit 9-1.

4. District Rule 1100

Sections 6.0 and 7.0 set forth breakdown procedures and reporting requirements. These requirements are addressed by conditions 1, 2, and 11 of the facility-wide requirements, (-0-1). District Rule 1100 has been submitted to the EPA to replace Fresno County APCD Rule 110, which is in the SIP. District Rule 1100 is at least as stringent as the county SIP rule addressing breakdowns as is shown in the table below.

Table 2. Comparison of District Rule 1100 and Fresno County Rule 110

Requirement	Rule 1100	Fresno 110
Report breakdown occurrence as soon as reasonably possible but no later than 1 hour after detection	X	X
Obtain variance if occurrence will last longer than a production run or 24 hours whichever is shorter (96 hours for CEM systems)	X	X
Submit a report to the APCO within 10 days of the correction of the breakdown occurrence which includes the following: 1) a statement that the breakdown condition has been corrected, together with the date of correction and proof of compliance, 2) a specific statement of the reason(s) or cause(s) for the occurrence sufficient to enable the APCO to determine whether the occurrence was a breakdown condition, 3) a description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future, and 4) pictures of the equipment or controls which failed if available.	X	X

5. District Rule 1160

Section 5.0 requires the owner or operator of any stationary source to provide the District with a written emission statement showing actual emissions of reactive organic gases (ROGs) and nitrogen oxides (NO_x) from that source. See condition 3 of the facility-wide requirements, (-0-1).

6. District Rules 2010 and 2020

District Rule 2010 sections 3.0 and 4.0 require any person building, modifying or replacing any operation that may cause the issuance of air

contaminants to apply for an Authority to Construct (ATC) from the District in advance. The ATC will remain in effect until the Permit to Operate (PTO) is granted. District Rule 2020 lists equipment that is specifically exempt from obtaining permits and specifies recordkeeping requirements to verify such exemptions. These requirements are stated in condition 4 of the facility-wide requirements, (-0-1).

District Rule 2010 has been submitted to the EPA to replace FCAPCD Rule 201 which is in the SIP. District Rule 2010 is as stringent as FCAPCD Rule 201, as is shown in the following table.

Table 3. Comparison of District Rule 2010 and Fresno County Rule 201

Requirement	Rule 2010	Fresno 201
Any person building or replacing equipment must apply for an Authority to Construct.	X	X
Any person altering equipment must apply for an Authority to Construct.	X	
Before operation, a Permit to Operate must be obtained.	X	X
A Permit to Operate must be posted on the equipment.	X	X
A person shall not willfully deface, alter, forge, counterfeit, or falsify a Permit to Operate.	X	X
The Authority to Construct shall serve as a temporary Permit to Operate for newly constructed or modified sources. The application for a Permit to Operate shall serve as a temporary Permit to Operate for existing sources that apply for a Permit to Operate.	X	

7. District Rules 2031, 2070 and 2080

These rules set forth requirements to comply with all conditions of the Permit to Operate. Permits to Operate or Authorities to Construct are not transferable unless a new application is filed with and approved by the District. All source operations must be constructed and operated as specified in the Authority to Construct. See conditions 5 and 6 of the facility-wide requirements, (-0-1).

District Rules 2031, 2070, and 2080 have been submitted to the EPA to replace FCAPCD Rules 203.1, 207 and 208 which are in the SIP. The District Rules are as stringent as the FCAPCD Rules as is shown in Tables 3, 4, and 5.

Table 4. Comparison of District Rule 2031 and Fresno County Rule 203.1

Requirement	Rule 2031	Fresno 203.1
A PTO or an ATC shall not be transferable from location to location or from person to person unless a new application is filed and approved by the APCO.	X	X

Table 5. Comparison of District Rule 2070 and Fresno County Rule 207

Requirement	Rule 2070	Fresno 207
ATC or PTO applications shall be denied unless the applicant shows that Health and Safety Codes Section 42301 is not violated.	X	
ATC or PTO applications shall be denied unless the applicant shows that Health and Safety Codes Section 41700 or 41701 are not violated.	X	X
PTO applications shall be denied unless the applicant follows the ATC.	X	X
ATC or PTO applications shall be denied unless the applicant complies with the NSR rule.	X	
ATC or PTO applications shall be denied unless the applicant will comply with both NSPS and NESHAP requirements.	X	
A person shall not operate any source operation contrary to conditions specified on the Permit to Operate.	X	

Table 6. Comparison of District Rule 2080 and Fresno County Rule 208

Requirement	Rule 2080	Fresno 208
The APCO may issue an ATC or PTO subject to conditions that shall be specified in writing.	X	X

8. District Rule 2040

Section 3.0 requires that every application for a permit shall be filed in a manner and form prescribed by the District. See condition 7 of the facility-wide requirements, (-0-1).

District Rule 2040 has been submitted to the EPA to replace FCAPCD Rule 204, which is in the SIP. District Rule 2040 is as stringent as FCAPCD Rule.

Table 7. Comparison of District Rule 2040 and Fresno County Rule 204

Requirement	Rule 2040	Fresno 204
Every application for a permit shall be filed in the manner and form prescribed by the APCO and shall give all the information necessary to enable the APCO to determine whether to grant or deny a permit.	X	X
The APCO shall notify the applicant in writing in the event of a denial. The applicant may deem the Permit to Operate denied if the APCO fails to ATC on the PTO within 60 calendar days after filing. The applicant may petition the Hearing Board in writing for a public hearing in the event of an application denial.	X	

9. District Rule 2520, Sections 5.2, 9.0, and 10.0

Section 5.2 requires that permittee submit applications for Title V permit renewal at least six months prior to permit expiration. This requirement is included in condition 36 of the facility-wide requirements, (-0-1).

Section 9.0 of District Rule 2520 requires certain elements to be contained in each Title V permit. Section 9.1 requires each permit to include emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance. Section 9.4.2 requires that periodic monitoring be performed if none is associated with a given emission limit to assure compliance. Section 9.4.3 requires the permit to include conditions for use, maintenance and installation of monitoring equipment or methods. This section allows that recordkeeping requirements may be sufficient to meet these requirements.

a. Internal Combustion Engines (C-825-1-1 and -8-1)

Monitoring is required for the diesel fuel being fired in the IC engine and particulate matter (PM) emissions (see permit unit conditions 4-6).

b. Fuel Receiving and Unloading Operation (C-825-3-1)

Operational requirements have been added as proposed by the applicant which assure compliance with the applicable requirement to prevent

excessive fugitive dust (see condition 7 of the requirements for permit unit -3-1).

c. Fuel Handling, Processing and Storage (C-825-4-2)

Operational requirements have been added as proposed by the applicant which assure compliance with the applicable requirements for inspection and recording to prevent excessive fugitive dust (see conditions 10 through 14 of the requirements for permit unit -4-2).

d. 30 MW Power Production Biomass fueled boiler (C-825-5-2)

Monitoring requirements are to include specified test methods, pursuant to District Rule 2520, 9.4.2 (see conditions 28, 29, 32, 34, and 37 of the requirements for permit unit -5-2).

Installation and maintenance of monitoring equipment requirements are included pursuant to District Rule 2520, 9.4.3 (see conditions 18 through 20)

e. Gasoline storage and dispensing (C-825-9-1)

District Rule 4622 does not specify a monitoring frequency for the applicable leak detection requirement. Therefore, conditions 10, 11, 12 and 17 of the requirements for permit unit -9-1 require annual leak inspections to be conducted and that the source maintain an inspection log to assure compliance with leak limits of the rule. District Rule 4622 prohibits operation with certain equipment defects, but does not require any monitoring. Condition 10 has been added to require a monitoring log of identified defects be maintained.

Operational requirements have been added which assure compliance with the applicable requirement to prevent retail gasoline dispensing (see condition 1 of the requirements for permit unit -9-1).

Sections 9.5.1 and 9.5.2 contain requirements to incorporate all applicable recordkeeping requirements into the Title V permit, specific records of any required monitoring, and the retention of all required monitoring data and support information for five years. The requirements to keep specific monitoring records and retain records for five years are stated in the following conditions.

Permit Unit Number	Condition Number
-0-1	8, 9
-1-1, -8-1	7
-3-1	4
-4-2	9
-5-2	30
-9-1	15

Section 9.6 contains requirements for the submittal of reports of monitoring at least every six months and prompt reporting of deviations from permitting requirements, including those attributable to upset conditions. All required reports must be certified by the responsible official. These requirements are stated in conditions 10 and 11 of the facility-wide requirements. (-0-1).

Section 9.8 states that the Title V permit must also contain a severability clause in case of a court challenge; the severability clause is stated in condition 12 of the facility-wide requirements, (-0-1).

Section 9.9 contains requirements for provisions in the Title V permit stating that 1) the permittee must comply with all permit conditions; 2) that the permitted activity would have to be reduced to comply with the permit conditions should not be a defense in an enforcement action, 3) that the permit may be revoked, modified, reissued, or reopened for cause, 4) that the Title V permit does not reflect any property rights, and 5) that the permittee will furnish the District with any requested information to determine compliance with the conditions of the Title V permit. Compliance with these sections of Rule 2520 will be assured by conditions 5 and 13-16 of the facility-wide requirements, (-0-1).

Section 9.10 contains the requirement to provide in the permit that the permittee pay annual permit fees and applicable fees from District Rules 3010, 3030, 3050, 3080, 3090, 3110, and 3120. This requirement is stated in condition 17 of the facility-wide requirements, (-0-1).

Section 9.14.1 requires any report or document submitted under a permit requirement or a request for information by the District or EPA shall contain a certification by a responsible official to truth, accuracy, and completeness. Compliance with this section will be assured by condition 28 of the facility-wide requirements, (-0-1).

Section 9.14.2 contains inspection and entry requirements that allows an authorized representative of the District to enter a permittee's premises to inspect equipment, operations, work practices, permits on file and to sample

substances or monitor parameters for the purpose of assuring compliance with the permit requirements. Compliance with this section will be assured by conditions 18 through 21 of the facility-wide requirements, (-0-1).

Section 9.17 requires that the permittee submit certification of compliance with the terms and standards of Title V permits to the EPA and the District annually (or more frequently as required by the applicable requirement or the District). Condition 35 of the facility-wide requirements, (-0-1) assures compliance with this requirement.

Section 10.0 requires any application form, report or compliance certification submitted pursuant to these regulations shall contain certification of truth, accuracy and completeness by a responsible official. Compliance with this section will be assured by condition 28 of the facility-wide requirements, (-0-1).

10. District Rule 4002 - National Emissions Standards for Asbestos - 40 CFR
Part 61.145, 61.150

There are applicable requirements from the National Emissions Standards for Hazardous Air Pollutants that apply to all sources in general. These requirements pertain to asbestos removal and disposal from renovated or demolished structures. Compliance is assured for these requirements by condition 34 of the facility-wide requirements (-0-1).

11. District Rule 4101 – Visible Emissions

EPA issued a relative stringency finding, dated August 20, 1996, stating District Rules 4101 is more stringent than SIP approved Fresno County Rule 401.

Section 5.0 of Rule 4101 prohibits the discharge of any air contaminant for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart; or is of such opacity as to obscure an observer's view to a degree equal to or greater than 20% opacity. This requirement is stated in condition 22 of the facility-wide requirements, (-0-1).

12. District Rule 4201 – Particulate Matter Concentration

Section 3.1 of District Rule 4201 requires emissions to be at or below 0.1 grain of particulate matter per dry standard cubic foot of exhaust gas.

a. Internal Combustion Engines (C-825-1-1 and -8-1)

Compliance may be demonstrated as follows:

890 HP IC Engine to Power Standby Electrical Generator:

$$\begin{aligned}
 \text{Fuel} \cdot \text{Rate} &= \frac{(Bhp \cdot \text{rating})(\text{conversion} \cdot \text{factor})}{(hvh)(\text{thermal} \cdot \text{efficiency})} \\
 \text{Fuel} \cdot \text{Rate} &= \frac{(890 \cdot Bhp) \left(\frac{2542.5 \cdot Btu}{hp - hr} \right)}{\left(\frac{137,000 \cdot Btu}{gal \cdot diesel} \right) (0.35)} = 47.2 \text{ gallons / hr} \\
 g / bhp - hr &= \frac{\left(\frac{0.1 \cdot gr}{dscf} \right) \left(\frac{47.2 \cdot gal}{hr} \right) \left(\frac{0.137 \cdot MMBtu}{gal} \right) \left(\frac{9190 \cdot dscf}{MMBtu} \right)}{\left(\frac{15.432 \cdot gr}{g} \right) (890 \cdot bhp)} = 0.43 \cdot g / bhp - hr
 \end{aligned}$$

Where:

Fuel heating value = 137,000 Btu/gal = For diesel fuel, Appendix A of AP-42
 0.1 gr/dscf = District Rule 4201 PM emission limit
 15.432 gr/g = conversion factor
 9190 dscf/MMBtu = F factor for diesel fuel, from Table 19-1 of EPA Method 19

As calculated above, the maximum emission factor for this engine that would result in compliance with 0.1 gr/dscf is 0.43 g/Bhp-hr. Maximum PM emissions are not to exceed 0.3 g/bhp-hr at maximum rating (equivalent to 0.6 lb/hr). Since this is a standby engine with operation limited to less than 200 hours/year, no source testing will be required to demonstrate compliance.

245 HP IC Engine to Power an Emergency Fire Pump:

$$\begin{aligned}
 \text{Fuel} \cdot \text{Rate} &= \frac{(Bhp \cdot \text{rating})(\text{conversion} \cdot \text{factor})}{(hvh)(\text{thermal} \cdot \text{efficiency})} \\
 \text{Fuel} \cdot \text{Rate} &= \frac{(245 \cdot Bhp) \left(\frac{2542.5 \cdot Btu}{hp - hr} \right)}{\left(\frac{137,000 \cdot Btu}{gal \cdot diesel} \right) (0.35)} = 13.0 \text{ gallons / hr}
 \end{aligned}$$

$$g / bhp - hr = \frac{\left(\frac{0.1 \cdot gr}{dscf} \right) \left(\frac{13.0 \cdot gal}{hr} \right) \left(\frac{0.137 \cdot MMBtu}{gal} \right) \left(\frac{9190 \cdot dscf}{MMBtu} \right)}{\left(\frac{15.432 \cdot gr}{g} \right) (245 \cdot bhp)} = 0.43 \cdot g / bhp - hr$$

As calculated above, the maximum emission factor for this engine that would result in compliance with 0.1 gr/dscf is 0.43 g/Bhp-hr. The manufacturer's information for this engine indicates emissions should not exceed 0.24 g/hp-hr (approximately equivalent to the current permit limit of 0.2 lb/hr). This engine emission data was obtained from information contained in the engineering evaluation, dated 6/2/92, for the initial permit. Since this is a standby engine with operation limited to less than 200 hours/year, no source testing will be required to demonstrate compliance.

b. Fuel receiving and unloading (C-825-3-1)

This unit is not subject to District Rule 4201 since emissions are fugitive in nature.

c. Fuel handling, processing and storage (C-825-4-2)

Emissions from these operations are controlled by two baghouses. Compliance with District Rule 4201 is demonstrated as follows.

Baghouse #1 (@ Hammerhog Tower):

Emissions are controlled by permit condition 3, which list the maximum emission factor as 0.0005 lb-PM₁₀/ton. Uncontrolled particulate emissions are estimated to be 0.054 lb/ton of fuel processed, according to the engineering evaluation for ATC C-825-4-2 and AP-42 emission factors from Section 10.3-3, Wood Products. A properly maintained and operated baghouse is expected to achieve at least 99% control efficiency, according to the Air Pollution Engineering Manual, page 131, Attachment F. The following calculation indicates compliance is assured for a properly maintained and operated baghouse:

$$\frac{\left(\frac{0.0541 \cdot lb}{ton \cdot fuel} \right) (1 - 0.99) \left(\frac{7000 \cdot gr}{lb} \right) \left(\frac{50 \cdot tons \cdot fuel}{hr} \right)}{\left(\frac{2,000 \cdot scf}{min} \right) \left(60 \cdot \frac{min}{hr} \right)} = 0.002 \cdot \frac{gr}{scf}$$

Where:

2,000 scfm = air flow rate (District Engineering Evaluation for Project #960797, January 2, 1997)
 0.0541 lb/ton = PM emission factor, uncontrolled (District Engineering Evaluation for Project #960797, January 2, 1997)
 0.99 = baghouse control efficiency
 50 ton/hr = Maximum fuel throughput of equipment (permit limits 1200 tons/day, assuming 24 hour/day operation)

Baghouse #2 (@ fuel feed surge bin):

Emissions are controlled by permit condition 4, which list the maximum emission factor as 0.0001 lb-PM₁₀/ton. Uncontrolled particulate emissions are estimated to be 0.01 lb/ton of fuel processed, according to the engineering evaluation for ATC C-825-4-2 and AP-42, fourth edition emission factors from Section 10.3-3, Wood Products. A properly maintained and operated baghouse is expected to achieve at least 99% control efficiency, according to the Air Pollution Engineering Manual, page 131, Attachment F. The following calculation indicates compliance is assured for a properly maintained and operated baghouse:

$$\frac{\left(\frac{0.01 \cdot lb}{ton \cdot fuel}\right)(1 - 0.99)\left(\frac{7000 \cdot gr}{lb}\right)\left(\frac{50 \cdot tons \cdot fuel}{hr}\right)}{\left(\frac{2,000 \cdot scf}{min}\right)\left(60 \cdot \frac{min}{hr}\right)} = 0.0003 \cdot \frac{gr}{scf}$$

Where:

0.01 lb/ton = PM emission factor, uncontrolled (District Engineering Evaluation for Project #960797, January 2, 1997).

The above equations demonstrate that emissions of PM are expected to be well below the applicable limits, even under dry standard conditions. Thus, no additional testing or monitoring for PM will be required for this unit. Conditions 5 through 7, 10 through 13 of the requirements for permit unit C-825-4-2 assure compliance with District Rule 4201.

d. 30 MW power production biomass fueled boiler (C-825-5-2)

Requirements from District Rule 4201 for permit unit C-825-5-2 have been addressed in a streamlining demonstration. Refer to section "C", Streamlining of Multiple Requirements, for compliance with this rule.

13. District Rule 4202 - Particulate Matter Emission Rate

Section 4.0 prohibits any source operation from discharging into the atmosphere particulate matter in excess of allowed limits.

The maximum allowable emission rate is given as a function of the process weight rate. The function is shown below.

For process rates up to 30 ton/hour:

$$E = 3.59 P^{0.62}$$

For process rates greater than 30 ton/hour:

$$E = 17.31 P^{0.16}$$

where: E = emission rate of particulate matter (lb/hr)

P = process weight rate (ton/hr)

a. Fuel Receiving and Unloading Operations (C-825-3-1)

The maximum process rate for the fuel receiving and unloading operation is 3,600 tons/day. 3,600 ton/day is equal to 150 ton/hr (3,600 ton/day ÷ 24 hr/day). Therefore,

$$E_{\text{allowed}} = 17.31 (150)^{0.16} = 38.6 \text{ lb-PM/hr}$$

Calculations for Project 980126 used a PM₁₀/PM ratio of 40% and calculated total PM₁₀ emissions of 114.2 lb-PM₁₀/day. Therefore:

$$\begin{aligned} \text{PM}_{\text{actual}} &= 114.2 \text{ lb-PM}_{10}/\text{day} \div 24 \text{ hr/day} \div 40\% \text{ PM}_{10}/\text{PM} \\ &= 11.9 \text{ lb-PM/hr} \end{aligned}$$

Since 11.9 lb-PM/hr < 38.6 lb-PM_{Allowed} ∴ compliance is expected

b. Fuel Handling, Process and Storage Operations (C-825-4-2)

The process rate for the fuel handling, processing and storage operation is 1,200 tons/day. 1,200 ton/day is equal to 50 ton/hr (1,200 ton/day ÷ 24 hr/day). Therefore,

$$E_{\text{allowed}} = 17.31 (50)^{0.16} = 32.4 \text{ lb-PM/hr}$$

Again using a PM₁₀/PM ratio of 40% and permitted total PM₁₀ emissions of 64.8 lb-PM₁₀/day. Therefore:

$$\begin{aligned} \text{PM}_{\text{actual}} &= 64.8 \text{ lb-PM}_{10}/\text{day} \div 24 \text{ hr/day} \div 40\% \text{ PM}_{10}/\text{PM} \\ &= 6.75 \text{ lb-PM/hr} \end{aligned}$$

Since $6.75 \text{ lb-PM/hr} < 32.4 \text{ lb-PM}_{\text{Allowed}}$ \therefore compliance is expected

c. 30 MW Power Production Biomass fueled boiler (C-825-5-2)

The process rate for the biomass fueled boiler operation is 1,200 tons/day. 1,200 ton/day is equal to 50 ton/hr ($1,200 \text{ ton/day} \div 24 \text{ hr/day}$). Therefore,

$$E_{\text{allowed}} = 17.31 (50)^{0.16} = 32.4 \text{ lb-PM/hr}$$

Again using a PM_{10}/PM ratio of 40% and permitted total PM_{10} emissions of $6.2 \text{ lb-PM}_{10}/\text{day}$. Therefore:

$$\begin{aligned} \text{PM}_{\text{actual}} &= 6.2 \text{ lb-PM}_{10}/\text{hr} \div 40\% \text{ PM}_{10}/\text{PM} \\ &= 15.5 \text{ lb-PM/hr} \end{aligned}$$

Since $15.5 \text{ lb-PM/hr} < 32.4 \text{ lb-PM}_{\text{Allowed}}$ \therefore compliance is expected

14. District Rule 4301 – Fuel Burning Equipment

This rule limits emissions from fuel burning equipment. Section 3.1 of the rule defines Fuel Burning Equipment as, “any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer.”

a. 30 MW Power Production Biomass fueled boiler (C-825-5-2)

Requirements from District Rule 4301 for permit unit C-825-5-2 have been addressed in a streamlining demonstration. Refer to section “C”, Streamlining of Multiple Requirements, for compliance with this rule.

15. District Rule 4352 – Solid Fuel Fired Boilers, Steam Generators

This rule limits emissions from solid fuel fired boilers, steam generators, and process heaters.

a. 30 MW Power Production Biomass fueled boiler (C-825-5-2)

Requirements from District Rule 4301 for permit unit C-825-5-2 have been addressed in a streamlining demonstration. Refer to section “C”, Streamlining of Multiple Requirements, for compliance with this rule.

16. District Rule 4601 – Architectural Coatings

This rule limits the emissions of VOCs from architectural coatings. It requires limiting the application of coating to no more than 250 grams of VOC/liter of coating (less water and exempt compounds). It also forbids the use of coating from the list in the Table of Standards (section 5.2) and limits the use of Specialty Coatings to a VOC content not to exceed the specified limits in Table 1 of Rule 4601. This rule further specifies labeling requirements, coatings thinning recommendations, storage requirements and cleanup requirements. See conditions 23 through 27 of the facility-wide requirements (-0-1).

17. District Rule 4621 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels and Bulk Plants

This rule applies to the transfer of gasoline into stationary storage tanks.

a. Gasoline storage tank and dispensing nozzle (C-825-9-1)

Section 5.1.1 of this rule requires that all stationary storage containers with a capacity greater than 250 gallons be equipped with a permanent submerged fill pipe and an ARB certified Phase I vapor recovery system, as defined in section 3.1 of the rule. Conditions 2 and 4 of the requirements for permit unit C-825-9-1 assures compliance with this section.

Section 5.1.2 of this rule prohibits placing or storing gasoline in any above-ground tank with a capacity of more than 250 gallons, unless it is equipped with a pressure-vacuum valve set to within ten percent of the maximum working pressure of the tank. Condition 3 of the requirements for permit unit C-825-9-1 assures compliance with this section.

Section 5.2.1 prohibits the source from operating or allowing the operation of a gasoline delivery vessel unless valid State of California decals, which attest to the vapor integrity of the tank, are displayed. Condition 5 of the requirements for permit unit C-825-9-1 assures compliance with this section.

Section 5.2.2 of this rule applies to the loading of gasoline delivery vessels. Section, thus does not apply to this facility.

Section 5.3 of this rule applies to gasoline bulk plants, thus does not apply to this facility.

Section 5.4 of this rule requires that the vapor recovery system used to comply with the requirements of this rule shall comply with all safety, fire, weights and measures, and other applicable codes and/or regulations. This is a general "liability" clause that originated from the CARB Executive Orders certifying Phase I and II Vapor Recovery Systems. This requirement contains no air-pollution-related requirements that must be included in the permit.

Section 6.1 of this rule applies only to facilities required to provide recordkeeping, which demonstrates their exemption from this rule. This section does not apply to this facility because it is not exempt from this rule.

Section 6.2 of this rule prescribes test methods that are to be used to demonstrate compliance with this rule. ARB Method 202 is required by District Rule 4621, section 6.2, for compliance with the vapor recovery requirements. This method is a certification procedure for gasoline bulk plants (where delivery vessels are being loaded with gasoline) and is not applicable to this gasoline dispensing facility where storage tanks are being filled by gasoline delivery vessels for later transfer to the end user. Compliance is assured with the vapor recovery requirements using performance tests required by District Rule 4622 in condition 17 of the requirements for permit unit C-825-9-1.

18. District Rule 4622 – Gasoline Transfer into Motor Vehicles Fuel Tanks

This rule applies to gasoline dispensing facilities that are not exempt due to a throughput of less than or equal to 24,000 gallons of gasoline per calendar year.

a. Gasoline storage tank and dispensing nozzle (C-825-9-1)

The requirements of this rule are applicable as follows:

Section 5.1 of this rule requires that a Phase II vapor recovery system is operational on any gasoline dispenser used to fill a motor vehicle fuel tank with a capacity greater than five gallons. This facility has installed Phase II vapor recovery on the dispenser and complies with this rule. Condition 6 of the requirements for permit unit -9-1 assures continued compliance with this rule.

Section 5.3 of this rule requires that any ARB certified gasoline vapor recovery system shall not be removed and shall be maintained in good repair so that the system can continue to comply with the certification

recovery efficiency. Condition 8 of the requirements for permit unit -9-1 assures compliance with this rule.

Section 5.4 of this rule requires that no person shall operate any fuel dispensing system that has a defective vapor recovery system. Refer to Attachment E for a list of these defects. Condition 9 of the requirements for permit unit -9-1 assures compliance with this section.

Section 5.5 of this rule requires that the operator of any fuel dispensing system shall tag "Out of Order" on all dispensing equipment for which vapor recovery has been impaired. Condition 10 of the requirements for permit unit -9-1 assures compliance with this section.

Section 5.6 of this rule requires that the vapor recovery system shall be maintained to have no leaks as determined by EPA Test Method 21. Condition 11 of the requirements for permit unit -9-1 assures compliance with this section.

Section 5.7 of this rule requires that the vapor recovery system used to comply with the requirements of this rule shall comply with all safety, fire, weights and measures, and other applicable codes and/or regulations. These requirements are identical to the requirements of section 5.4 of District Rule 4621 and contain no air-pollution-related requirements that must be included in the permit.

Section 5.8 of this rule contains requirements for retail service stations, thus it does not apply to this facility.

Section 5.9 of this rule requires that no person top off a motor vehicle fuel tank. Condition 13 of the requirements for permit unit -9-1 assures compliance with this section.

Section 5.10 of this rule applies to retail service stations, thus it does not apply to this facility.

Section 5.11 of this rule requires that the owner of a vapor recovery system shall not tamper with or permit tampering with the system in a manner that would impair the operation or effectiveness of the system. Condition 14 of the requirements for permit unit -9-1 assures compliance with this section.

Sections 6.1.1 and 6.1.2 apply to facilities that are exempt from this rule, thus these sections do not apply to this facility. Section 6.1.3 requires that records be maintained of vapor recovery system tests. Condition 15 of the requirements for permit unit -9-1 assures compliance with this section.

This condition has modified by changing the retention time of required data from 2 years to 5 years to assure compliance with Section 9.5.2 of District Rule 2520.

Section 6.2 requires that the gasoline dispensing system be tested within 60 days after major modification or installation and requires that the facility shall notify the District at least 15 days prior to any compliance testing. Conditions 7 and 18 of the requirements for permit unit -9-1 assures compliance with this section.

Section 6.3 requires certain performance tests to be performed and passed to verify the compliance of the Phase II vapor recovery system. Condition 17 of the requirements for permit unit -9-1 assures compliance with this section.

19. District Rule 4623, Section 5.4 – Storage of Organic Liquid

Section 5.4 of Rule 4623 reiterates the requirement of District Rule 4621 wherein above-ground gasoline storage tanks with capacity of 19,800 gallons or more must be equipped with a pressure-vacuum valve set to within 10% of the maximum allowable working pressure of the tank.

a. Gasoline storage tank and dispensing nozzle (C-825-9-1)

Section 5.4 is the only provision in Rule 4623, which applies this equipment. Compliance with this requirement is assured by condition 3 of the requirements for permit unit -9-1.

20. District Rule 4801 – Sulfur Compounds

This rule replaces Fresno County APCD Rule 406 and requires that sulfur compound emissions shall not exceed 0.2 percent by volume calculated as sulfur dioxide on a dry basis. The following table compares the stringency of these two rules and shows that the District Rule is as strict as Fresno County Rule 406.

Table 8. Comparison of District Rule 4801 and Fresno County Rule 406

Requirement	Rule 4801	Fresno 406
A person shall not discharge sulfur compounds into the atmosphere which would exceed 0.2 percent by volume calculated as sulfur dioxide.	X	X
EPA Method 8 and ARB Method 1-100 shall be used to determine such emissions.	X	

a. 30 MW Power Production Biomass fueled boiler (C-825-5-2)

Requirements from District Rule 4801 for permit unit C-825-5-2 have been addressed in a streamlining demonstration. Refer to section "C", Streamlining of Multiple Requirements, for compliance with this rule.

21. District Rule 8020, 8030, 8060 - Fugitive Dust (PM10)

These regulations contain requirements for the control of fugitive dust. These requirements apply to various sources: construction, demolition, excavation, extraction, and water mining activities; outdoor storage piles; paved and unpaved roads. Compliance with these regulations will be required by conditions 31, 32, and 33 of the facility-wide requirements (-0-1).

22. Title VI of the CAA - Stratospheric Ozone

There are applicable requirements from Title VI of the CAA (Stratospheric Ozone) that apply to all sources in general. These requirements pertain to air conditioners, chillers and refrigerators located at a Title V source and to disposal of air conditioners or maintenance/recharging/disposal of motor vehicle air conditioners (MVAC). These requirements are addressed in conditions 29 and 30 of the facility-wide requirements (-0-1).

23. 40 CFR Part 68 - Chemical Accident Prevention Provisions

Requirements from this regulation are applicable to facilities, which may store regulated substances above a threshold limit. Mendota Biomass Power, Ltd., owned by Chrysler Capitol Funding Corporation, may store greater than 20,000 pounds of ammonia at concentrations greater than 20%, a regulated toxic substance and is therefore subject to these requirements. Compliance with these regulations will be required by condition 39 of the facility-wide requirements (-0-1).

C. Streamlining of Multiple Requirements

Streamlining of multiple requirements for permit unit C-825-5-2 is provided as follows:

1. 30 MW Power Production Biomass fueled boiler (C-825-5-2)

- a. District Rules 4101; 4201; 4301; District NSR Rule; and 40 CFR 60, Subpart Db - Particulate and Opacity limits

These rules contain limits on emissions of particulate matter (PM) and visible emissions. The following analysis shows that the proposed PM and visible emissions requirements are as stringent as District Rules 4101, 4201, 4301, District NSR Rule and 40 CFR 60.43b(c) and (f). Streamlining procedures, as documented in the following steps, are used to substitute the proposed set of requirements for the otherwise applicable requirements.

Step 1. Side-by-side Comparison of Applicable Requirements for PM and Opacity:

PM						
CITATION:	District Rule 4101	District Rule 4201	District Rule 4301	District NSR Rule	40 CFR 60 Subpart Db	Proposed Requirements
WORK PRACTICE STANDARDS:	<ul style="list-style-type: none"> Material shall be removed from dust collector and disposed of in a manner preventing entrainment into atmosphere [ATC C-825-5-2 condition #31] 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Baghouse equipped with pressure differential gauge, maintained in good working condition. [ATC C-825-5-2 condition #23] Spare set of bag on premises at all times[ATC C-825-5-2 condition #26] Baghouse equipped with multiple compartments having fire detection systems[ATC C-825-5-2 condition #27] Pressure drop across Baghouse kept between 2.5 and 6 inches w.c. [ATC C-825-5-2 condition #25] Boiler fuels limited to: saw mill residues; forest residues; orchard and vineyard prunings; urban wood waste; almond and walnut shells; prune, peach and olive pits; and natural gas. [ATC C-825-5-2 condition #3] Natural gas shall be used only for startup and combustion stabilization (fuel not to exceed 25% annual BTU heat input). [ATC C-825-5-2 condition #4] 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Material shall be removed from dust collector and disposed of in a manner preventing entrainment into atmosphere [Title V, C-825-5-2 condition #31] Baghouse equipped with pressure differential gauge, maintained in good working condition. [Title V, C-825-5-2 condition #23] spare set of bag on premises at all times[Title V, C-825-5-2 condition #26] Baghouse equipped with multiple compartments having fire detection systems[Title V, C-825-5-2 condition #27] Pressure drop across Baghouse kept between 2.5 and 6 inches w.c. [Title V, C-825-5-2 condition #25] Natural gas shall be used only for startup and combustion stabilization (fuel not to exceed 25% annual BTU heat input). [Title V, C-825-5-2 condition #4]

EMISSION LIMIT:	<ul style="list-style-type: none"> •No air contaminant discharge for period or periods aggregating more than 3 min. in any one hour as dark or darker than Ringlemann 1 or equivalent to 20% opacity. [5.0] 	<ul style="list-style-type: none"> •0.1 grain/cf, at dry standard conditions [4201, 3.1] 	<ul style="list-style-type: none"> •0.1 grain/cf, calculated to 12% CO₂ at dry standard conditions [4301, 5.1] •10 lb/hr [4301, 5.2.3] 	<ul style="list-style-type: none"> •0.010 gr. PM/dscf, corrected to 12% CO₂ [ATC C-825-5-2 condition #12] •6.2 lb PM/hour as measured by EPA Method 5 [ATC C-825-5-2 condition #12] 	<ul style="list-style-type: none"> •0.10 lb/MMBtu [60.43b(c)] •Opacity shall not exceed 20% (6-min average) except for one 6-min period per hour of not more than 27% opacity. These standards shall not apply during startup, shutdown or malfunction[60.43b(f) and (g)] 	<ul style="list-style-type: none"> •0.010 gr. PM/dscf, corrected to 12% CO₂ [Title V, C-825-5-2 condition #1] •6.2 lb PM/hour as measured by EPA Method 5 [Title V, C-825-5-2 condition #12]
MONITORING:	<ul style="list-style-type: none"> •None 	<ul style="list-style-type: none"> •None 	<ul style="list-style-type: none"> •None 	<ul style="list-style-type: none"> •CEMS for opacity and linked to data logger compatible with District's system [ATC C-825-5-2 conditions #18 and #19] •Provide annual calibration certification of CEM system [ATC C-825-5-2 conditions #20, District Rule 4352] •Condition of bags in Baghouse inspected quarterly [ATC C-825-5-2 condition #29] 	<ul style="list-style-type: none"> •CEMS for opacity installed, evaluated, and operated pursuant to 40 CFR 60.13, Span value between 60 and 80% [60.48b(a), (e), & (e)(1)] 	<ul style="list-style-type: none"> •CEMS for opacity and linked to data acquisition system, accessible by modem. [Title V, C-825-5-2 conditions #18 and #19] •Provide annual certification of CEM system [District Rule 4352] •Condition of bags in Baghouse inspected quarterly [Title V, C-825-5-2 condition #29]
RECORDKEEPING:	<ul style="list-style-type: none"> •None 	<ul style="list-style-type: none"> •None 	<ul style="list-style-type: none"> •None 	<ul style="list-style-type: none"> •Records of Baghouse inspection, maintenance, and repair shall be kept for 5 years and provided upon request Verification of all emission related data is responsibility of Permittee and be provided upon request [ATC C-825-5-2 conditions #30] •CEMS output records [ATC C-825-5-2 conditions #18] 	<ul style="list-style-type: none"> •CEMS output records [60.48b(a)] •Record pursuant to 60.49b(d) and (g) •Maintain records for 2 years [60.49b(o)] 	<ul style="list-style-type: none"> •Records of Baghouse inspection, maintenance, and repair shall be kept for 5 years and provided upon request Verification of all emission related data is responsibility of Permittee and be provided upon request [District Rule 2520, 9.5.2; Title V, C-825-5-2 conditions #30] •CEMS output records [Title V, C-825-5-2 conditions #18]

REPORTING:	•None	•None	•None	<ul style="list-style-type: none"> •Verification of all emission related data is responsibility of Permittee and be provided upon request [ATC C-825-5-2 condition #15] •Pretest plan for source test must be submitted for prior approval. Verification of all emission related data is responsibility of Permittee and be provided upon request [ATC C-825-5-2 conditions #16] •Quarterly reports of operating hours, hours of excess emission, hours of CEM system downtime, and reason. Verification of all emission related data is responsibility of Permittee and be provided upon request [ATC C-825-5-2 conditions #21 District Rule 1080, 8.0] 	<ul style="list-style-type: none"> •Submit excess opacity emission reports for any calendar quarter during which excess emissions occurred. If no excess emissions, then semiannual report stating such. [60.49b(h)] 	<ul style="list-style-type: none"> •Verification of all emission related data is responsibility of Permittee and be provided upon request [Title V, C-825-5-2 condition #15] •Pretest plan of source test must be submitted for prior approval. Verification of all emission related data is responsibility of Permittee and be provided upon request [Title V, C-825-5-2 conditions #16] •quarterly reports of operating hours, hours of excess emission, hours of CEM system downtime, and reason Verification of all emission related data is responsibility of Permittee and be provided upon request [Title V, C-825-5-2 conditions #21 and District Rule 1080, 8.0]
TEST METHODS:	•None	<ul style="list-style-type: none"> •Particulate matter concentration - EPA Method 5 [4201, 4.1] •Stack gas velocity - EPA Method 2 [4201, 4.2] •Stack gas moisture - EPA Method 4 [4201, 4.3] 	<ul style="list-style-type: none"> •PM concentration - EPA Method 5 [4301, 5.1] •Stack gas velocity - EPA Method 2 [4301, 5.5] •Stack gas moisture - EPA Method 4 [4301, 5.6] 	<ul style="list-style-type: none"> •PM emissions – EPA Method 5 (front half wash) [ATC C-825-5-2 condition #32] 	<ul style="list-style-type: none"> •PM using EPA Method 5 for initial performance test only [60.46b(d)] 	<ul style="list-style-type: none"> •PM emissions - EPA Method 5 (front half wash) [Title V, C-825-5-2 condition #32]

Step 2. Select most stringent emission limit or performance standard:

The proposed PM and opacity emission limits of:

0.01 grain/dscf of gas calculated to 12% carbon dioxide, and

6.2 lb PM/hr

No air contaminant discharged for a period or periods aggregating more than 3 minutes in any one-hour which is dark or darker than Ringelmann 1 or equivalent to 20% opacity.

are at least as stringent as those imposed by District Rules 4101, 4201 and 4301, District NSR Rule and 40 CFR 60, Subpart Db, as demonstrated below:

Compliance with PM Limit - District Rule 4101:

This rule requires opacity to be limited to the following:

No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one-hour as dark or darker than Ringelmann 1 or equivalent to 20% opacity

The proposed conditions include this requirement and are therefore at least as stringent as District Rule 4101.

Compliance with PM Limit - District Rule 4201:

This rule requires PM emissions to be limited to the following:

0.1 grain per cubic foot of gas at dry standard conditions

The CO₂ content of the exhaust from this unit typically ranges from 14% to 17% at operating conditions based on source test data. The following formula is used to correct emissions from CO₂% at operating conditions to 12% CO₂:

$$\left(\frac{\text{grains}}{\text{dscf}} \text{ at } \cdot \text{operating} \cdot \text{CO}_2 \right) \left(\frac{12\% \cdot \text{CO}_2}{\text{operating} \cdot \text{CO}_2} \right) = \frac{\text{grains}}{\text{dscf}} \text{ at } \cdot 12\% \cdot \text{CO}_2$$

Assuming 20% CO₂ operating conditions as being worst case scenario, the above equation results in a corrected District 4201 emission limit of 0.06 grains/dscf at 12% CO₂. An exhaust concentration of greater than 120% CO₂, which is not possible, would be required to correct the 0.1 limit to below 0.01 grains/dscf at 12% CO₂. Therefore, the proposed limit of 0.01 grains/dscf corrected to 12% CO₂ is more stringent than the District Rule 4201 limit of 0.1 grains/dscf at operating conditions.

Compliance with PM Limit - District Rule 4301, 5.1:

This rule requires PM emissions to be limited to the following:

0.1 grain per cubic foot of gas calculated to 12% carbon dioxide at dry standard conditions and

10 lb/hr

The proposed conditions of 0.01 grains/dscf at 12% CO₂ and 6.2 lb/hour are more stringent than District Rule 4301 requirements.

Compliance with PM Limit - District NSR Rule:

This rule requires a Daily Emissions Limitation (DEL) be contain in the latest ATC and PTO which restricts its maximum daily emissions at or below the emissions associated with the maximum design capacity. NSR PM emissions are limited to the following by ATC C-825-5-2:

0.01 grain/dscf of gas calculated to 12% carbon dioxide, and

6.2 lb PM/hr

The proposed conditions include the first two NSR emission limits.

Compliance with PM and Opacity Limits - 40 CFR 60 Subpart Db

This regulation requires PM emissions and opacity to be limited to the following:

0.10 lb/MMBtu

Opacity @ 20% (6 minute average) except for one 6-minute period per hour of not more than 27% opacity

The proposed conditions prohibit opacity greater than or equal to 20% for a period or periods aggregating more than 3 minutes in any one hour. The proposed opacity limit is clearly more stringent than the NSPS opacity requirement.

The following demonstration illustrates, by conversion of units of measure, that the proposed limit of 6.2 lb/hour is more stringent than 0.1 lb/MMBtu at operating conditions.

Section 1.6.1 of AP-42, Wood Waste Combustion in Boilers, states heating values for wood waste ranges between 4,000 and 5,000 Btu/pound of fuel on a wet as-fired basis. The following equation is used to convert emissions based on lb/MMBtu to an hourly emission limit:

$$\left(0.1 \frac{lb}{MMBtu}\right) \left(0.004 \frac{MMBtu}{lb \cdot fuel}\right) \left(24 \frac{tons}{hour}\right) \left(2000 \frac{lb}{ton}\right) = 19.2 \frac{lb}{hour}$$

where:

$$0.1 \frac{lb}{MMBtu} = \text{NSPS PM emission limit}$$

$$24 \frac{tons}{hour} = \text{Minimum expected fuel firing rate (maximum rate is 40 TPH, by permit condition)}$$

$$0.004 \frac{MMBtu}{lb \cdot fuel} = \text{Lowest expected fuel heating value (typical values are between .005 and .006 MMBtu/lb, based on hhv testing by source)}$$

The facility typically operates at close to maximum equipment Btu rating and source testing is typically performed at 80% or greater equipment Btu rating. The source has stated the typical fuel firing rate is approximately 32 TPH and the minimum firing rate is about 75% of this or 24 TPH as used in the calculations above as worst case conditions. The preceding calculation shows the proposed limit of 6.2 lb/hour is more stringent than 0.1 lb/MMBtu limit at worst expected case operating conditions.

Step 3. Conditions ensuring compliance with applicable requirements

Condition 22 of the facility-wide requirements (-0-1), assures compliance with the proposed opacity limit. Conditions 12 of the requirements for permit unit -5-2 requires the boiler to be in compliance with 0.01 grains PM/dscf calculated at 12% CO₂ and 6.2 lb PM/hour limits.

Step 4. Certify compliance

By signing the Compliance Certification Form (TVFORM-005), the applicant has certified compliance with the proposed set of streamlined conditions.

Step 5. Compliance schedule for new monitoring requirements

Not applicable.

- b. District Rules 4301 and 4801; District NSR Rule; and 40 CFR 60, Subpart Db - Sulfur Oxides (SOx) Emission Limits

These rules contain limits on emissions of sulfur oxides. 40 CFR 60, Subpart Db contains Sox emission limits applicable only to coal or oil fired steam-generating units. Permit unit C-825-5-2 does not combust coal or oil and therefore the Sox emission limits of Subpart Db are not applicable. The following analysis shows that the proposed SOx emission requirements are as stringent as District Rules 4301, 4801 and District NSR Rule. Streamlining procedures, as documented in the following steps, are used to substitute the proposed set of requirements for the otherwise applicable requirements.

Step 1. Side-by-side Comparison of emission limits for SOx:

SULFUR DIOXIDE				
CITATION:	District Rule 4301	District Rule 4801	District NSR Rule	Proposed Requirements
WORK PRACTICE STANDARDS:	•none	•none	<ul style="list-style-type: none"> •Boiler fuels limited to: saw mill residues; forest residues; orchard and vineyard prunings; urban wood waste; almond and walnut shells; prune, peach and olive pits; and natural gas. [ATC C-825-5-2 condition #3] •Natural gas shall be used only for startup and combustion stabilization (fuel not to exceed 25% annual BTU heat input). [ATC C-825-5-2 condition #4] 	<ul style="list-style-type: none"> •Boiler fuels limited to: saw mill residues; forest residues; orchard and vineyard prunings; urban wood waste; almond and walnut shells; prune, peach and olive pits; and natural gas. [Title V, C-825-5-2 condition #3] •Natural gas shall be used only for startup and combustion stabilization (fuel not to exceed 25% annual BTU heat input). [Title V, C-825-5-2 condition #4]
EMISSION LIMIT:	•200 lb sulfur compounds/hr, calculated as SO ₂ [5.2.1]	•Two-tenths (0.2) percent by volume calculated as sulfur dioxide (SO ₂) [3.1]	•10.3 lb SOx/hour [ATC C-825-5-2 condition #14]	•10.3 lb SOx/hour [Title V, C-825-5-2 condition #14]
MONITORING:	•none	•none	•annual source testing for SOx as SO ₂ [ATC C-825-5-2 condition #16]	•annual source testing for SOx as SO ₂ [Title V, C-825-5-2 condition #16]
RECORDKEEPING:	•none	•none	•none	•Maintain all records, including source test results for 5 years [District Rule 2520, 9.5.2]
REPORTING:	•none	•none	<ul style="list-style-type: none"> •Verification of all emission related data is responsibility of Permittee and be provided upon request [ATC C-825-5-2 condition #15] •Pretest plan for source test must be submitted for prior approval Verification of all emission related data is responsibility of Permittee and be provided upon request [ATC C-825-5-2 condition #16] •Quarterly reports of operating hours, hours of excess emission, and reason. Verification of all emission related data is responsibility of Permittee and be provided upon request [ATC C-825-5-2 condition #21] 	<ul style="list-style-type: none"> •Verification of all emission related data is responsibility of Permittee and be provided upon request [Title V, C-825-5-2 condition #15] •Pretest plan for source test must be submitted for prior approval Verification of all emission related data is responsibility of Permittee and be provided upon request [Title V, C-825-5-2 condition #16] •Quarterly reports of operating hours, hours of excess emission, and reason. Verification of all emission related data is responsibility of Permittee and be provided upon request [Title V, C-825-5-2 condition #21]

TEST METHOD:	<ul style="list-style-type: none"> •Sulfur compounds by EPA Method 8 or ARB Method 8 [5.4] • Stack gas velocity and moisture content by EPA Methods 2 and 4 [5.5 and 5.6] 	<ul style="list-style-type: none"> •Sulfur compounds by EPA Method 8 and ARB Method 1-100 (Continuous Emission Stack Sampling) [3.2] 	<ul style="list-style-type: none"> •none 	<ul style="list-style-type: none"> •Sulfur compounds by EPA Method 8 or ARB Method 100. [District Rule 4301, 5.4] •Stack gas velocity and moisture content by EPA Methods 2 and 4 or ARB Method 1. [District Rule 4301, 5.5 and 5.6]
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Step 2. Select most stringent emission limit or performance standard

The proposed SO_x emission limit of:

10.3 lb SO_x/hour

is at least as stringent as those imposed by District Rules 4301, and 4801, District New Source Review and 40 CFR 60, Subpart Db, as demonstrated below:

Compliance with SO_x Limits - District Rule 4301

This rule limits SO_x emissions to the following:

200 lb sulfur compounds/hr, calculated as SO₂

The proposed condition limiting SO_x emissions to 10.3 lb SO_x/hr, calculated as SO₂, is more stringent than District Rule 4301 requirements.

Compliance with SO_x Limits - District Rule 4801:

This rule limits SO_x emissions to the following:

0.2% by volume (2000 ppmv) calculated as SO₂, on a dry basis averaged over 15 minutes

The proposed condition limiting SO_x emissions to 10.3 lb SO_x/hr, calculated as SO₂, is more stringent than District Rule 4301 requirements. The following demonstration illustrates, by conversion of units of measure and comparison with predicted SO_x emissions using AP-42 emission factor, that the proposed requirements are more stringent than District Rule 4801:

$$\frac{\left(\frac{10.3 \text{ lb SO}_x}{\text{hr}}\right)\left(\frac{23.7 \text{ L SO}_2}{\text{gmol SO}_2}\right)\left(\frac{0.035315 \text{ dscf SO}_2}{\text{L SO}_2}\right)\left(\frac{453.59 \text{ g SO}_2}{\text{lb SO}_2}\right)}{\left(\frac{9240 \text{ dscf exhaust}}{\text{MMBtu}}\right)\left(\frac{64.14 \text{ g SO}_2}{\text{gmol SO}_2}\right)\left(0.004 \frac{\text{MMBtu}}{\text{lb} \cdot \text{fuel}}\right)\left(40 \frac{\text{tons}}{\text{hour}}\right)\left(2000 \frac{\text{lb}}{\text{ton}}\right)} = \left(\frac{0.00002 \text{ dscf SO}_2}{\text{dscf exhaust}}\right)$$

$$< \left(\frac{0.002 \text{ dscf SO}_2}{\text{dscf exhaust}}\right)$$

Where:

$$23.7 \frac{L}{gmol} = \frac{(288.71K) \left(22.4 \frac{L}{gmol} \right)}{273.15K} = \text{molar volume of an ideal gas corrected to District}$$

standard conditions (60° F, 14.7 psi) per Charles' Law

$$0.035315 \frac{ft^3}{L} = \text{Conversion factor (AP-42, Appendix A)}$$

$$453.59 \frac{g}{lb} = \text{Conversion factor (AP-42, Appendix A)}$$

$$9240 \frac{dscf}{MMBtu} = F\text{-factor, } F_d, \text{ for wood waste (40 CFR § 60, App. A, Method. 19, Table 19-1)}$$

$$64.14 \frac{g \cdot SO_2}{gmol} = \text{Molecular weight, } SO_2$$

$$40 \frac{tons}{hour} = \text{Maximum fuel firing rate (by permit condition)}$$

$$0.004 \frac{MMBtu}{lb \cdot fuel} = \text{Lowest expected fuel-heating value}$$

$$0.002 \frac{parts \cdot SO_2}{parts \cdot exhaust} = \text{District Rule 4801 emission limit}$$

The above calculation is a conservative to convert lb/hour emission rate to a percent by volume emission rate using an F factor to estimate exhaust airflow. Under actual operating conditions for this unit, typical airflow (87,000 dscf/min) is approximately twice this level due to air added to the boiler exhaust prior to final PM treatment and emission from the baghouse stack. The preceding conservative calculation shows that for the biomass fuel, the existing limit of 10.3 lb SOx/hr is well below and more stringent than the requirements of District Rule 4801.

Step 3. Conditions ensuring compliance with applicable requirements

Condition 14 of the requirements for permit unit C-825-5-2 requires the boiler to be in compliance with the 10.3 lb-SOx/hour emission limit

Step 4. Certify compliance

By signing the Compliance Certification Form (TVFORM-005), the applicant has certified compliance with the proposed set of streamlined conditions.

Step 5. Compliance schedule for new monitoring requirements

Not applicable.

a. District Rules 4301; District NSR Rule; and 40 CFR 60, Subpart Db -
Emission Limits for Nitrogen Oxide

These rules contain limits on emissions of nitrogen oxide (NO_x). The following analysis shows that the proposed NO_x requirements are as stringent as District Rules 4301, District NSR Rule and 40 CFR 60, Subpart Db. Streamlining procedures, as documented in the following steps, are used to substitute the proposed set of requirements for the otherwise applicable requirements.

Step 1. Side-by-side Comparison of Applicable Requirements for NOx:

CITATION:	NOx				
	District Rule 4301	District Rule 4352	District NSR Rule	40 CFR 60 Subpart Db	Proposed Requirements
WORK PRACTICE STANDARDS:	•None	•Liquid or gaseous fuel may be used for startups, shutdowns, and other flame stabilization periods, as deemed necessary by the owner/operator. [2.0]	•Boiler fuels limited to: saw mill residues; forest residues; orchard and vineyard prunings; urban wood waste; almond and walnut shells; prune, peach and olive pits; and natural gas. [ATC C-825-5-2 condition #3] •Natural gas shall be used only for startup and combustion stabilization (fuel not to exceed 25% annual BTU heat input). [ATC C-825-5-2 condition #4]	•None	•Boiler fuels limited to: saw mill residues; forest residues; orchard and vineyard prunings; urban wood waste; almond and walnut shells; prune, peach and olive pits; unpainted paper and natural gas. [Title V, C-825-5-2 condition #3] •Natural gas shall be used only for startup and combustion stabilization (fuel not to exceed 25% annual BTU heat input). [Title V, C-825-5-2 condition #4]
EMISSION LIMIT:	•140 lb NO _x /hr [4301, 5.2.2]	•0.20 lb NO _x /MMBtu, based on 24 hour averaging period. [5.1, 5.2]	•27.8 lb NO _x /hour [ATC C-825-5-2 condition #17]	•0.30 lb NO _x /MMBtu for facilities that simultaneously combust natural gas and wood or other solid fuel [60.44b(d)] •NO _x limit applicable at all times, including startup, shutdown, or malfunction [60.44b(h)]	•27.8 lb NO _x /hour, based on 24 hour averaging period [Title V, C-825-5-2 condition #17]

MONITORING:	<ul style="list-style-type: none"> •None 	<ul style="list-style-type: none"> •CEMS for NOx and CO2 or O2 concentrations and NOx emission rate [5.5] •CEMS shall be operated, maintained, and calibrated pursuant to 40 CFR 60.7 (c) and 60.13 and satisfy Performance Specifications to 40 CFR 60 Appendix B and the Relative Accuracy Test Audit of Appendix F [5.5] •Annual source testing for section 5.0 compliance [6.3] 	<ul style="list-style-type: none"> •CEMS for linked to data logger compatible with District's system [ATC C-825-5-2 condition #19] •Provide annual certification of CEM system [ATC C-825-5-2 conditions #34 and #35; District Rule 4352, 5.5] 	<ul style="list-style-type: none"> •Install, calibrate, maintain and operate CEMS for NOx [60.48b(b)] •Compliance with NOx limit is determined on a 30-day rolling average basis [60.44b(i)] •CEMS span value for NOx is 500 ppmv [60.48b(e)(2)] •Follow procedures in 60.13 for installation, evaluation and operation of CEMS [60.48b(e)] 	<ul style="list-style-type: none"> •CEMS for linked to data logger compatible with District's system [Title V, C-825-5-2 condition #19] •Provide annual certification of CEM system [District Rule 4352, 5.5] [Conditions #34 and #35]
RECORDKEEPING:	<ul style="list-style-type: none"> •None 	<ul style="list-style-type: none"> •Operating log of type and quantity of fuel used on a monthly basis and higher heating value of each fuel as determined by section 6.4 or certified by 3rd party supplier [6.2] •Maintain records for 2 years [6.2] 	<ul style="list-style-type: none"> •Record CEMS output [ATC C-825-5-2 condition #18] •Record type, mass and geographic origin of all biomass used on a daily basis. [ATC C-825-5-2 condition #5] 	<ul style="list-style-type: none"> •Record CEMS output (lb/MMBtu) during all periods of operation except for CEMS breakdowns and repairs. Data to be recorded during calibration checks and zero and span adjustments. [60.48b(b) and (c)] •1-hr averages calculated using data points required under 60.13(b), with at least 2 points [60.48b(d)] •Records pursuant to 60.49b(d) and (g) •Maintain records for 2 years [60.49b(o)] 	<ul style="list-style-type: none"> •Record CEMS output [Title V, C-825-5-2 condition #18] •Record type, mass and geographic origin of all biomass used on a daily basis. [Title V, C-825-5-2 condition #5]

REPORTING:	•None	•None	<ul style="list-style-type: none"> •Verification of all emission related data is responsibility of Permittee and be provided upon request [ATC C-825-5-2 condition #15] •Pretest plan for source test must be submitted for prior approval. Verification of all emission related data is responsibility of Permittee and be provided upon request [ATC C-825-5-2 condition #16] •quarterly reports of operating hours, hours of excess emission, hours of CEM system downtime, and reason Verification of all emission related data is responsibility of Permittee and be provided upon request [ATC C-825-5-2 condition #21] 	<ul style="list-style-type: none"> •Quarterly reports pursuant to 60.49b(i) •Submit excess emission reports for any calendar quarter during which excess emissions occurred. If no excess emissions, then semiannual report stating such. [60.49b(h)] 	<ul style="list-style-type: none"> •Verification of all emission related data is responsibility of Permittee and be provided upon request [Title V, C-825-5-2 condition #15] •Pretest plan for source test must be submitted for prior approval. Verification of all emission related data is responsibility of Permittee and be provided upon request [Title V, C-825-5-2 condition #16] •Quarterly reports of operating hours, hours of excess emission, hours of CEM system downtime, and reason Verification of all emission related data is responsibility of Permittee and be provided upon request [Title V, C-825-5-2 condition #21]
TEST METHODS:	<ul style="list-style-type: none"> •Oxides of nitrogen concentration - ARB Method 100. Stack gas velocity - EPA Method 2. [4301, 6.0] 	<ul style="list-style-type: none"> •EPA Method 7E for NOx •EPA Method 2 for Stack gas velocity [6.4.1.5] •EPA Method 4 for stack gas moisture content [6.4.1.6] •ASTM Method D or E for solid fuel hhv [6.4.1.7, 6.4.1.8] 	•None	<ul style="list-style-type: none"> •When NOx emission values not obtained by CEMS due to breakdown, etc., use standby CEMS, Method 7, 7A, or other approved reference method for minimum of 75% of operating hours in each steam generating unit operating day, in at least 22 of 30 successive unit operating days [60.48b(f)] 	<ul style="list-style-type: none"> •Source testing to measure NOx shall be conducted using EPA Method 7E; stack gas velocity using EPA Method 2; stack gas moisture content using Method 4; solid fuel hhv using ASTM Method D 2015 or E 711. [6.4.1] •When NOx emission values not obtained by CEMS due to breakdown, etc., use standby CEMS, for minimum of 75% of operating hours in each steam generating unit operating day, in at least 22 of 30 successive unit operating days. [60.48b(f)]

Step 2. Select most stringent emission limit or performance standard:

The proposed NOx emission limit of:

27.8 lb-NOx/hour, based on 24 hour averaging period

is at least as stringent as those imposed by District Rules 4301 and 4352, District NSR Rule and 40 CFR 60, Subpart Db, as demonstrated below:

Compliance with NOx Limit - District Rule 4301, 5.2.2:

This rule requires NOx emissions to be limited to the following:

140 lb/hr

The proposed limit of 27.8 lb/hour is more stringent than District Rule 4301 requirements.

Compliance with NOx Limit - District Rule 4352:

This rule requires NOx emissions to be limited to the following:

0.20 lb/MMBtu

The following demonstration illustrates, by conversion of units of measure, that the proposed limit of 6.2 lb/hour is more stringent than 0.2 lb/MMBtu at operating conditions:

Section 1.6.1 of AP-42, Wood Waste Combustion in Boilers, states heating values for wood waste ranges between 4,000 and 5,000 Btu/pound of fuel on a wet as-fired basis. The following equation is used to convert emissions based on lb/MMBtu to an hourly emission limit:

$$\left(0.2 \frac{\text{lb}}{\text{MMBtu}}\right) \left(0.004 \frac{\text{MMBtu}}{\text{lb} \cdot \text{fuel}}\right) \left(24 \frac{\text{tons}}{\text{hour}}\right) \left(2000 \frac{\text{lb}}{\text{ton}}\right) = 38.4 \frac{\text{lb}}{\text{hour}}$$

where:

$0.2 \frac{\text{lb}}{\text{MMBtu}}$ = District Rule 4352 NOx emission limit

$24 \frac{\text{tons}}{\text{hour}}$ = Minimum expected fuel-firing rate (maximum rate is 40 TPH, by permit condition)

$$0.004 \frac{\text{MMBtu}}{\text{lb} \cdot \text{fuel}} = \text{Lowest expected fuel-heating value (typical values are between .005 and .006 MMBtu/lb, based on hhv testing by source)}$$

The facility typically operates at close to maximum equipment Btu rating and source testing is typically performed at 80% or greater equipment Btu rating. The source has stated the typical fuel firing rate is approximately 32 TPH and the minimum firing rate is about 75% of this or 24 TPH as used in the calculations above as worst case conditions. The preceding calculation shows the proposed limit of 27.8 lb/hour is more stringent than 0.2 lb/MMBtu limit at worst case expected operating conditions.

Compliance with NOx Limit - District NSR Rule:

This rule requires a Daily Emissions Limitation (DEL) be contained in the latest ATC and PTO which restricts its maximum daily emissions at or below the emissions associated with the maximum design capacity. NSR NOx emissions are limited to the following by ATC C-825-5-2:

27.8 lb/hr, and

The proposed conditions include the NSR emission limit. The NSR limit of 27.8 lb/hour is at least as stringent as the daily limit.

Compliance with NOx Limits - 40 CFR 60 Subpart Db

This regulation limits NOx emissions to the following:

0.30 lb/MMBtu

The preceding stringency analysis for District Rule 4352 demonstrated that the proposed limit of 27.8 lb-NOx/hr is more stringent than the District Rule 4352 limit of 0.2 lb-NOx/MMBtu.

Step 3. Conditions ensuring compliance with applicable requirements

Condition 17 of the requirements for permit unit C-825-5-2 require the boiler to be in compliance with 27.8 pound /hr limit.

Step 4. Certify compliance

By signing the Compliance Certification Form (TVFORM-005), the applicant has certified compliance with the proposed set of streamlined conditions.

Step 5. Compliance schedule for new monitoring requirements

Not applicable.

- b. District Rule 4352 and District NSR Rule - Carbon Monoxide (CO) Emission Limits

These rules contain limits on emissions of Carbon Monoxide (CO). The following analysis shows that the proposed CO emission requirements are as stringent as District Rule 4352 and District NSR Rule. Streamlining procedures, as documented in the following steps, are used to substitute the proposed set of requirements for the otherwise applicable requirements.

Step 1. Side-by-side comparison of emission limits for CO:

CARBON MONOXIDE			
CITATION:	District Rule 4352	District NSR Rule	Proposed Requirements
WORK PRACTICE STANDARDS:	<ul style="list-style-type: none"> Heat may be supplied by liquid or gaseous fuel during startup, shutdown and other combustion stabilization periods. [2.0] 	<ul style="list-style-type: none"> Boiler fuels limited to: saw mill residues; forest residues; orchard and vineyard prunings; urban wood waste; almond and walnut shells; prune, peach and olive pits; and natural gas. [ATC C-825-5-2 condition #3] Natural gas shall be used only for startup and combustion stabilization (fuel not to exceed 25% annual BTU heat input). [ATC C-825-5-2 condition #4] 	<ul style="list-style-type: none"> Boiler fuels limited to: saw mill residues; forest residues; orchard and vineyard prunings; urban wood waste; almond and walnut shells; prune, peach and olive pits; and natural gas. [Title V, C-825-5-2 condition #3] Natural gas shall be used only for startup and combustion stabilization (fuel not to exceed 25% annual BTU heat input). [Title V, C-825-5-2 condition #4]
EMISSION LIMIT:	•400 ppmv @ 3% O ₂ [5.3]	•38.7 lb CO/hour [ATC C-825-5-2 condition #17]	•38.7 lb CO/hour [Title V, C-825-5-2 condition #17]
MONITORING:	•none	•annual source testing for CO [ATC C-825-5-2 condition #16]	•annual source testing for CO [Title V, C-825-5-2 condition #16]
RECORDKEEPING:	•none	•Record type and mass of all biomass used on a daily basis [ATC C-825-5-2 condition #6]	•Record type and mass of all biomass used on a daily basis [ATC C-825-5-2 condition #6]
REPORTING:	•none	<ul style="list-style-type: none"> Verification of all emission related data is responsibility of Permittee and be provided upon request [ATC C-825-5-2 condition #15] Pretest plan for source test must be submitted for prior approval Verification of all emission related data is responsibility of Permittee and be provided upon request [ATC C-825-5-2 condition #16] Quarterly reports of operating hours, hours of excess emission, and reason. Verification of all emission related data is responsibility of Permittee and be provided upon request [ATC C-825-5-2 conditions #15, and #21] 	<ul style="list-style-type: none"> Verification of all emission related data is responsibility of Permittee and be provided upon request [Title V, C-825-5-2 condition #15] Pretest plan for source test must be submitted for prior approval Verification of all emission related data is responsibility of Permittee and be provided upon request [Title V, C-825-5-2 condition #16] Quarterly reports of operating hours, hours of excess emission, and reason. Verification of all emission related data is responsibility of Permittee and be provided upon request [Title V, C-825-5-2 conditions #15, and #21]
TEST METHODS:	• CO (ppmv) by EPA Method 10 or ARB Method 100 [6.4.1.2]	•none	• CO (ppmv) by EPA Method 10 [District Rule 4352, 6.4.1.2]

Step 2. Select most stringent emission limit or performance standard

The proposed CO emission limit of: 38.7 lb CO/hour is at least as stringent as that imposed by District Rule 4352 as demonstrated below:

Compliance with CO Limit - District Rule 4352

This rule limits CO emissions to the following:

400 ppmv @ dry stack conditions and 3% O₂

The following demonstration illustrates, by conversion of units of measure to common units, that the proposed requirements are more stringent than District Rule 4352:

$$\frac{\left(\frac{38.7 \text{ lb CO}}{\text{hr}}\right)\left(\frac{23.7 \text{ L CO}}{\text{gmol CO}}\right)\left(\frac{0.035315 \text{ dscf}}{\text{L}}\right)\left(\frac{453.59 \text{ g}}{\text{lb}}\right)\left(\frac{20.9 - 3\% \text{ O}_2}{20.9 - 7\% \text{ O}_2}\right)}{\left(\frac{9240 \text{ dscf exhaust}}{\text{MMBtu}}\right)\left(\frac{28.01 \text{ g CO}}{\text{gmol CO}}\right)\left(0.004 \frac{\text{MMBtu}}{\text{lb} \cdot \text{fuel}}\right)\left(24 \frac{\text{tons}}{\text{hour}}\right)\left(2000 \frac{\text{lb}}{\text{ton}}\right)} = \left(\frac{0.00038 \text{ dscf CO}}{\text{dscf exhaust}}\right)$$

$$< \left(\frac{0.0004 \text{ dscf CO}}{\text{dscf exhaust}}\right)$$

where:

$$23.7 \frac{\text{L}}{\text{gmol}} = \frac{(288.71\text{K})\left(22.4 \frac{\text{L}}{\text{gmol}}\right)}{273.15\text{K}} = \text{molar volume of an ideal gas}$$

corrected to District standard
conditions (60° F, 14.7 psi) per
Charles' Law

$$0.035315 \frac{\text{ft}^3}{\text{L}} = \text{Conversion factor (AP-42, Appendix A)}$$

$$453.59 \frac{\text{g}}{\text{lb}} = \text{Conversion factor (AP-42, Appendix A)}$$

$$\frac{20.9 - 3\% \text{ O}_2}{20.9 - 7\% \text{ O}_2} = \text{Correction to 3\% O}_2 \text{ from operating O}_2 \text{ of 7\%}$$

$$9240 \frac{dscf}{MMBtu} = F\text{-factor, } F_d, \text{ for wood waste (40 CFR § 60, App. A, Method.}$$

19, Table 19-1)

$$28.01 \frac{g \cdot CO}{gmol} = \text{Molecular weight, CO}$$

$$24 \frac{tons}{hour} = \text{Minimum fuel firing rate (maximum rate is 40 TPH by permit condition)}$$

$$0.004 \frac{MMBtu}{lb \cdot fuel} = \text{Lowest expected fuel-heating value}$$

$$0.0004 \frac{parts \cdot SO_2}{parts \cdot exhaust} = 400 \cdot ppmv \text{ District Rule 4352 emission limit}$$

The above calculation is conservative to convert lb/hour emission rate to a ppmv emission rate using an F factor to estimate exhaust airflow. Under actual operating conditions for this unit, typical airflow (87,000 dscf/min) is approximately twice this level due to air added to the boiler exhaust prior to final PM treatment and emission from the baghouse stack. The O₂ content from the exhaust stack of this unit typically ranges from 4% to 6% at operating conditions based on source test data. An O₂ content of 7% was used in the above formula as a worst case scenario. The preceding conservative calculation shows that for the biomass fuel, the proposed limit of 38.7 lb CO/hr is more stringent than the requirements of District Rule 4352.

Step 3. Conditions ensuring compliance with applicable requirements

Condition 17 of the requirements for permit unit -5-2 requires the boiler to be in compliance with 38.7 lb-CO/hour limit

Step 4. Certify compliance

By signing the Compliance Certification Form (TVFORM-005), the applicant has certified compliance with the proposed set of streamlined conditions.

Step 5. Compliance schedule for new monitoring requirements

Not applicable.

X. PERMIT SHIELD

A permit shield legally protects a facility from enforcement of the shielded regulations when a source is in compliance with the terms and conditions of the Title V permit. Compliance with the terms and conditions of the Title V permit is considered compliance with all applicable requirements upon which those conditions are based, including those that have been subsumed.

XI. PERMIT CONDITIONS

See permit conditions beginning on the following page.

Attachment A

FACILITY EQUIPMENT LISTING

Attachment B

EXEMPT EQUIPMENT LISTING AND ACTIVITIES LISTING

The following exempt equipment was identified by the applicant on TVFORM-003, Insignificant activities.

Exemption Category	Rule 2020 Citation
Containers used to store petroleum distillates used as motor fuel with specific gravity ≥ 0.8251 .	5.7.7
Containers used to store refined lubricating oils.	5.7.8
Unvented pressure vessels used exclusively to store liquefied gases or associated with exempt equipment.	5.7.9 or 5.10.4
Equipment used exclusively for the transfer of refined lubricating oil.	5.8.2
Unheated, non-conveyorized degreasers with $< 10 \text{ ft}^2$ open area; using solvents with initial boiling point $\geq 248 \text{ F}$; and < 25 gal/yr evaporative losses.	5.9.2
Brazing, soldering, or welding equipment.	5.10.1
Pits and Ponds as defined in Rule 1020.	5.10.6
Non-structural repairs & maintenance to permitted equipment.	4.2.6

Attachment C

PREVIOUS
PTO

Attachment D

COUNTY RULE / DISTRICT RULE 1080 COMPARISON

Rule 1080 (Stack Monitoring)

REQUIREMENTS	1080 SJVU APCD	108 FRESNO
Upon request of APCO and as directed, source shall provide, install, and operate continuous monitoring equipment as directed and keep the equipment operating at design capabilities.	X	X
Upon request, source shall install and maintain CMS to measure the following pollutants or opacity from the following sources: 1) Fossil-fuel fired steam generators with a heat input of 250 million BTU/hr or more with a use factor of at least 30%/year [NO _x , CO ₂ or O ₂ , SO _x , and opacity except in certain cases], 2) Sulfur recovery plants and sulfuric acid plants [SO ₂], 3) new nitric acid plants and all existing nitric acid plants greater than 300 tons/day production capacity [NO _x], 4) CO boilers or regenerators of fluid catalytic cracking units and CO boilers of fluid cokers with feed rate greater than 10,000 barrels/day [SO ₂ and opacity].	X	
Systems shall be installed, calibrated, maintained and operated in accordance with following 40 CFR sections: Section 60.45 for fossil-fuel fired steam generators; Section 60.84 for Sulfuric acid plants; Section 60.73 for Nitric acid plants; Section 60.105 for petroleum refineries.	X	
Equivalent standards may be used by mutual agreement of District, ARB and EPA.	X	
Calibration gasses and cycling times shall meet applicable specifications of 40 CFR 51 and 40 CFR 60.	X	
CMS for SO ₂ , NO _x , CO ₂ , O ₂ , and opacity shall meet the applicable performance specifications of 40 CFR 51, Appendix P and 40 CFR 60, Appendix B, or equivalent.	X	
Upon request of APCO, provide summary of CMS data. Data shall be reduced according to procedure in 40 CFR 51, Appendix P, paragraphs 5.0 through 5.3.3 or by other equivalent methods.	X	
Records from the monitoring equipment shall be kept for at least two years. Records to include occurrence/duration of any start-up, shutdown or malfunction in operation; performance testing, evaluations, calibration, checks, adjustments and maintenance of CMS; emission measurements.	X	X (partial)
Reports submitted quarterly to APCO.	X	
Violations of any emissions standards of these rules, as shown by the CEM equipment must be reported within 96 hours.	X	
Breakdowns must be reported within 8 hours of detection, unless source demonstrates a longer period was necessary.	X	X immed /impractical)
District must be notified within 24 hours prior to intent to shutdown monitoring equipment.	X	

Attachment E

VAPOR RECOVERY SYSTEM DEFECTS

Vapor Recovery System Defects from District Rule 4622 and California Code of Regulation, Title 17, Section 94006, pursuant to section 5.4 of District Rule 4622.

#	REQUIREMENTS	District Rule 4622	CCR, Title 17, §96004
1	Absence or disconnection of any component required to be used in the Executive Order(s) that certified the system.	X	X
2	A vapor hose that is crimped or flattened such that the vapor passage is blocked or the pressure drop through the vapor hose exceeds by a factor of two or more the requirements in the system certified in the Executive Order(s) applicable to the system.	X	X
3	A nozzle boot which is torn in one or more of the following manners: (1) Triangular-shaped or similar tear 1/2 inch or more to a side, or hole 1/2 inch or more in diameter, or (2) Slit 1 inch or more in length.	X	X
4	For balance nozzles and for nozzles for aspirator and educator assist-type systems, faceplate or flexible cone that is damaged such that the ability to seal a fill pipe interface is affected for at least 1/4 of the circumference of the faceplate (accumulated).	X	X
5	More than 1/4 of the flexible cone missing from a nozzle on a vacuum-assist type system.	X	X
6	Nozzle shutoff mechanisms which malfunction in any manner.	X	X
7	Vapor return lines, including such components as swivels, anti-recirculation valves and underground piping, which malfunction or are blocked, or are restricted such that a pressure drop through the lines exceeds by a factor of two or more requirements specified in the Executive Order(s) that certified the system.	X	X
8	Vapor processing unit that is inoperative or severely malfunctioning.	X	X
9	Vacuum producing device that is inoperative or severely malfunctioning.	X	X
10	Pressure/vacuum relief valves, vapor checks valves, or dry breaks that are inoperative.	X	X
11	Any equipment defect, which is identified in an Executive Order certifying a system pursuant to the Certification Procedures, incorporated in Section 94001 of Title 17, California Administrative Code, as substantially impairing the effectiveness of the system in reducing refueling vapor emissions.	X	X